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ILLUSTRATIONS OF FUNGI—IV

William A. Murrill

Puffballs are the safest of all fungi for the beginner in mycophagy, none of them being poisonous; and they are at the same time excellent and easy to obtain. The species represented on the accompanying plate are mostly devoid of color and may be easily distinguished without its use. Certain other species requiring color will be illustrated in later plates.

Puffballs are good either stewed, or fried in thin slices with butter, but cooked in the latter way they are usually very rich. Being tender they cook quickly and are easily digested. They should as a rule be cut open before cooking to see that they are not too old and that they are really puffballs. If they are white and firm like cream cheese inside, showing no yellow or brownish discoloration, they are of the right age to use. If the interior shows no special structures, but is smooth and homogeneous, then one may be sure he has a puffball. The "egg" of the deadly amanita contains the young cap and stem inside, which is readily seen when the egg is cut; and the "egg" of the stinkhorn shows the stem and a green mass inside surrounded by a layer of jelly-like substance.

Pleurotus sapidus, a common edible mushroom found on dead trunks and stumps, is represented in one view in Fig. 5. This species will be described later, when more adequately illustrated.

Lycoperdon cyathiforme Bosc

Large Field Puffball

Plate 15. Figure 1. × ⅔

Peridium large, subglobose to turbinate, 5–15 cm. in diameter, the base short and thick; surface smooth, glabrous or finely floccose, whitish-gray or brown, becoming purplish and rimose-areolate above with age, cuticle thin, easily separating; capillitium and spores purplish-brown, falling away in age with the upper part of the peridium, leaving a persistent cup-shaped base with a ragged margin; spores sessile, globose, distinctly echinulate, purplish-brown, 5–7μ in diameter.

This puffball occurs commonly in the eastern United States in meadows and pastures where the common mushroom may be expected to grow, but its excellent qualities appear to be unknown to most persons. It is the largest puffball in this region, except the giant puffball, which is much rarer and grows in the woods. Bosc originally described this species from the cup-shaped sterile base, hence the specific name is hardly appropriate.

Amanita phalloides Fr.

DEADLY AMANITA. DESTROYING ANGEL

Plate 15. Figure 2. × ½

Pileus convex to expanded, 5–15 cm. broad; surface smooth, glabrous, white, slightly viscid when moist; margin entire, concolorous: flesh white, not objectionable to the taste, although at times emitting a slightly disagreeable odor; gills white, not changing color, broad, rounded at the base, free from the stem: spores globose, smooth, hyaline, 7–8μ in diameter: stem long, slender, smooth, white, stuffed or hollow, 7–15 cm. long, 1–1.5 cm. thick, decorated above with a large white annulus and sheathed at the swollen base with a conspicuous white volva or "death-cup" 2.5–4 cm. in diameter.

The above description applies only to the white form here figured. Other forms will require color. The species is common during summer and autumn in open groves and along the edges of woods.

The most important part of the deadly amanita is the sheath at the base of the stem known as the "death-cup," which is well shown in the illustration. This is what remains of the outer coat of the "egg" after the cap has burst from it and has been carried upward by the growing stem. The ring on the stem is similar to that of the common mushroom, but the gills are white, both when young and old, those of the common mushroom being at first pink, then black. Nothing can be told from the color of the upper surface of the cap because it varies so much, being pure white, yellowish, brownish or blackish. Sometimes the surface is perfectly smooth and at other times it is adorned with pieces of the "death-cup," which were carried up on it when the cap burst through the roof of the "egg."

When gathering mushrooms it is exceedingly important to get all of the stem and not leave a portion of it in the ground, since the "death-cup" may thus be overlooked. Mushrooms should not be gathered in the "button" stage unless mature specimens are growing in the same place, otherwise an "egg" of one of the poisonous kinds may be collected by mistake.

If distress is experienced within four or five hours after eating mushrooms, it is probably a case of indigestion or minor poisoning and should readily yield to a prompt emetic. If, however, from eight to twelve hours have elapsed since eating the mushrooms, disagreeable symptoms should be taken very seriously, since it is almost certain that one of the deadly narcotic poisons is at work. A physician should at once be called and the heart action stimulated by a hypodermic injection of about one sixtieth of a grain of atropine, which should be repeated twice at half hour intervals. Atropine is an antidote to the poison of the "fly amanita," which paralyzes the nerves controlling the action of the heart. If the "deadly amanita" has been eaten, the atropine will probably do no good, and death will surely follow if the amount eaten is sufficient.

Lycoperdon gemmatum Batsch

STUDDED PUFFBALL

Plate 15. Figure 3. × $\frac{2}{3}$

Peridium turbinate, subumbonate, usually whitish or gray, 2–4 cm. in diameter, narrowed below into a short, stem-like base; cortex of long, erect spines or warts of irregular shape scattered among small granular and more persistent ones, all of which finally fall away, leaving the surface reticulated with fine dotted lines; capillitium and spores greenish-yellow, at length pale brown, columella present; spores globose, smooth or slightly roughened, about 4μ in diameter.

This is a very common species, growing usually on the ground in woods. Although extremely variable, it is recognized without much difficulty by the character of its spiny covering, the larger spines somewhat resembling the shape of cut gems. The plants generally grow near together and are occasionally cespitose, but are rarely so crowded as in the case of the pear-shaped puffball.

Agaricus campestris L.

COMMON MUSHROOM

Plate 15. Figure 4. × ½

See MYCOLOGIA for March, 1909, for a full description and colored illustrations of this species. Fatal mistakes are sometimes made by extremely ignorant and careless persons who are unable to distinguish the common mushroom from the white form of the deadly amanita. The differences between the two are very marked, even if the base of the stem with the volva has been left in the ground. The common mushroom may at once be known by its pink gills, which become almost black with age, while those of the deadly amanita are always white.

Dictyophora duplicata (Bosc) Ed. Fisch.

VEILED STINKHORN

Plate 15. Figure 6. × 2

The "egg" of this poisonous and very fetid stinkhorn may be found beneath the soil or slightly projecting above the ground, about buildings and near old stumps in fields or borders of woods. It is nearly white, with a pinkish tinge, rather heavy, firm when very young, but becoming softer to the touch as it matures. When cut through in a very young stage, as shown in the figure, the young white cap and stem may be seen within, surrounded by a zone of gelatinous matter, which has a pinkish coloration. In later stages, the lines of division are more marked. This "egg" is considered very poisonous and must be carefully distinguished from puffballs when collecting the latter for food. The mature stinkhorn, after the development from the "egg" is complete, would never be considered edible on account of its very objectionable odor. A colored figure, with full description, of this species will appear in the next number of MYCOLOGIA.

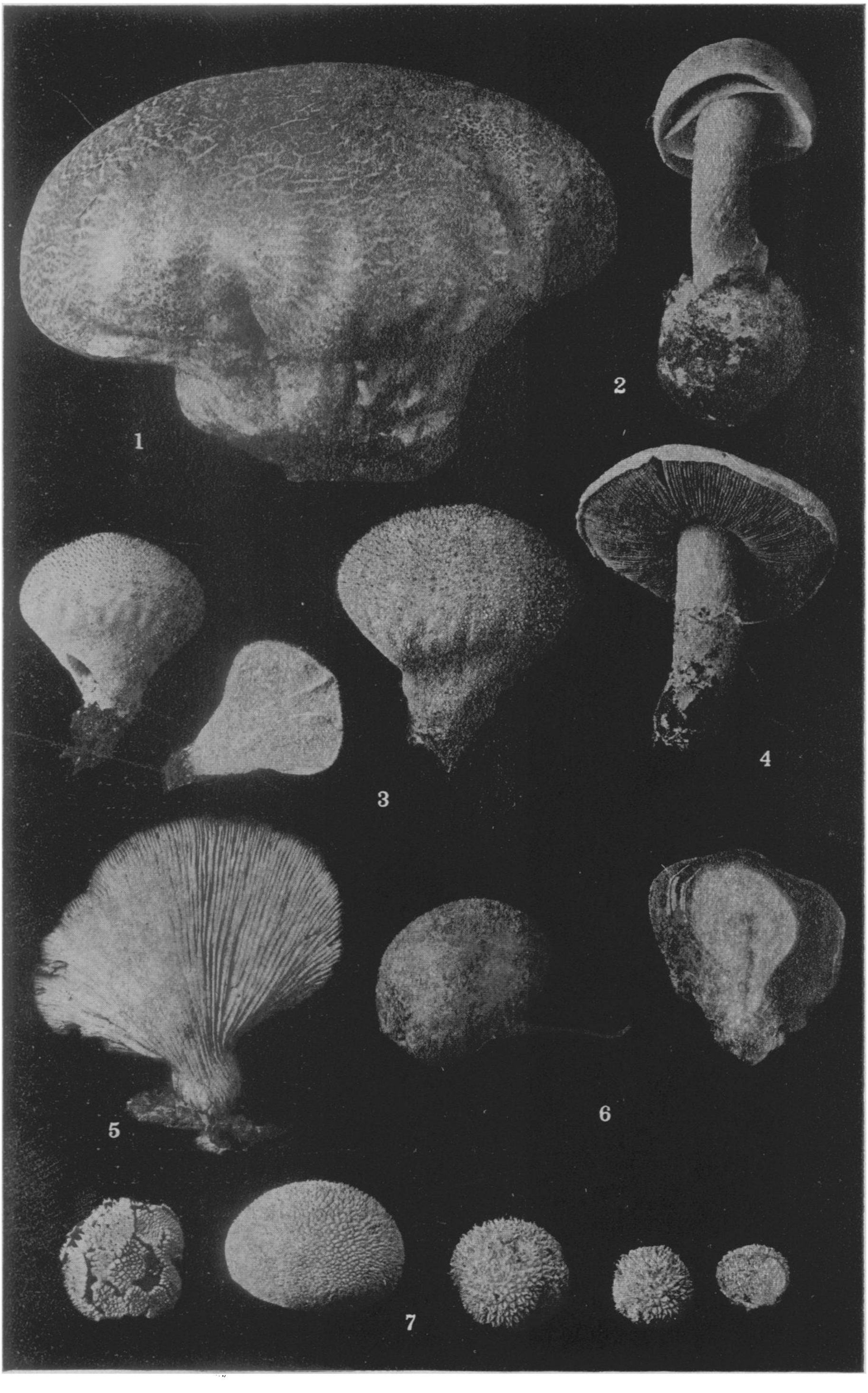
Lycoperdon Wrightii B. & C.

SEPARATING PUFFBALL

Plate 15. Figure 7. × $\frac{2}{3}$

Peridium globose or subglobose, sessile or nearly so, white, 1–4 cm. in diameter; surface densely covered with stellate spines or pyramidal warts that fall away at maturity, exposing the glabrous or minutely velvety, buff-colored inner peridium; capillitium and spores dingy olivaceous, columella present; spores globose, sessile, finely granular, about 4μ in diameter.

This species is very common during summer and autumn along paths and in dry pastures, usually occurring in great numbers and reminding one of a collection of white marbles of various sizes scattered upon the ground. Upon closer observation the characteristic coating of spines appears, which breaks into flakes and falls away at maturity, as is well shown in the figure.



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